IN THE CLAIMS

Please cancel claims 17-20 without prejudice or disclaimer as to the subject matter thereof.

1.-20. (Canceled)

21. (currently amended) An implantable medical device (IMD) powered by a battery for delivering a therapy to a patient dependent upon a physiologic condition of a patient comprising:

physiologic sensor means for developing a physiologic sense signal;

a signal processor that processes the physiologic sense signal comprising a plurality of self-timed logic elements formed into a chain that receives the physiologic signal at an input thereof, processes the physiologic signal, and provides the processed physiologic signal at an output after a self-timed logic propagation delay;

an operating system embodied in at least one integrated circuit formed of self-timed logic circuits that receives the processed physiologic signal and generates a therapy trigger signal; and

therapy delivery means for delivering the therapy upon receipt of ~~a~~ the therapy delivery trigger signal, wherein the therapy delivery means further comprises at least one independent timing mechanism operatively coupled to assist timing at least one temporal interval utilized in the delivery of the therapy.

22. (currently amended) The IMD ~~implantable monitor~~ of Claim 21, wherein the physiologic sensor means comprises sense electrodes to sense an electrical signal of a body organ or muscle.

23. (currently amended) The IMD ~~implantable monitor~~ of Claim 21, wherein the physiologic sensor means comprises sense electrodes to sense a cardiac signal.

24. (currently amended) The IMD ~~implantable monitor~~ of Claim 21, wherein the physiologic sensor means comprises a physiologic sensor that senses a condition or state of the body from among the group comprising physical activity of the body, blood pressure, blood temperature, blood gas concentration, and blood pH.

25. (new) An implantable medical device (IMD) powered by a battery for delivering a therapy to a patient dependent upon a physiologic condition of a patient comprising:

a sensor adapted to couple to human tissue for developing a signal related to a physiologic status of said tissue;

a signal processor that processes the sense signal comprising a plurality of self-timed logic elements formed into a chain that receives the signal at an input thereof, processes the signal, and provides the processed signal at an output after a self-timed logic propagation delay;

an operating system embodied in at least one integrated circuit formed of self-timed logic circuits that receives the processed signal and generates a therapy trigger signal; and

therapy delivery means for delivering the therapy upon receipt of a therapy delivery trigger signal, wherein said therapy delivery means operate independently from said sensor and said signal processor.

26. (new) An IMD according to claim 25, wherein the sensor comprises sense electrodes to sense an electrical signal of a body organ or muscle.

27. (new) An IMD according to claim 25, wherein the sensor comprises sense electrodes to sense a cardiac signal.

28. (new) An IMD according to claim 25, wherein the sensor comprises a physiologic sensor that senses a condition or state of the body from among the group comprising: a physical activity metric, a blood pressure metric, a blood temperature metric, a body temperature metric, a blood gas concentration metric, a blood pH metric.

29. (new) An IMD according to claim 25, wherein the IMD comprises one of: an implantable physiologic monitor, a deep-brain stimulator, a spinal cord stimulator, a nerve tissue stimulator, a diaphragm stimulator, an implantable cardioverter-defibrillator, a single-chamber implantable cardiac pacemaker, a dual-chamber cardiac pacemaker, a bi-chamber cardiac pacemaker, a cardiac resynchronization therapy delivery device, a multi-site cardiac pacing system.

30. (new) An IMD according to claim 25, wherein the IMD comprises one of an implantable intra-cardiac pressure monitor and a leadless subcutaneous monitor.

31. (new) An IMD according to claim 25, further comprising a telemetry circuit for wirelessly communicating with a remote processor-based circuit.

32. (new) An IMD according to claim 25, further comprising a memory activation means for causing storage of at least a portion of a temporal portion of cardiac signals and a temporal portion of the physiologic sense signal.

33. (new) An IMD according to claim 25, further comprising a memory structure means coupled to the processor for recording at least one of: a temporal portion of the signal and the physiologic status.

34. (new) An IMD according to claim 25, wherein the processed physiologic signal relates at least in part to one of:

an acute episode of myocardial ischemia, a chronic episode of myocardial ischemia, an arrhythmia, an elevated temperature, a reduced temperature, a change in cardiac output, a change in a blood gas metric.